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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,678	02/22/2002	Wilfrid LeBlanc	13328US01	2731

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EXAMINER	
SINGH, RAMNANDAN P	

ART UNIT	PAPER NUMBER
2644	3

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/081,678	LEBLANC, WILFRID	
	Examiner	Art Unit	
	Dr. Ramnandan Singh	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 February 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,11-18,22-29,33 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *8-10, 19-21, 30-32* are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

ELECTION OF SPECIES

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

Species I: Claims 7, 18, 29 are directed to a dual-tone multiple-frequency (DTMF) detector, as shown in Fig. 7,

Species II: Claims 8, 19, 30 are directed to a call progress detector, as shown in Fig. 7,

Species III: Claims 9, 20, 31 are directed to a call discriminator, as shown in Fig 7, and

Specifies IV: Claims 10, 21, 32 are directed to an automatic gain control, as shown in Fig. 7.

2. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

3. During a telephone conversation with John A. Wiberg, Attorney for the Applicant, on December 10, 2003, the examiner informed about the election/restriction requirement. On December 10, 2003, the Applicant made a provisional election of the

invention defined by Claims 7, 18, 29 (Species I) was made for prosecution on merit without traverse. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-10, 19-21, 30-32 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Objections

4. Claim 7 is objected to because of the following informalities:

Claim 7 recites a limitation "**disabling step(b)**" on page 23, line 3.

This is incorrect. Replace the term "**disabling step(b)**" by the term "**disabling step(c)**".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-7, 11-18, 22-29, 33, 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Kwan [6,504,838 B1].

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding Claim 1, Kwan teaches a method of processing communication signals in a communication system shown having a detector (80) shown in Fig. 6, for detecting a parameter of a communication signal, comprising steps of:

(a) receiving a communication signal (60(a)) with a non-linear processor (NLP) (72) adapted to detect the communication signal and to decide to enter an active state based on a detected parameter of the signal;

(b) communicating to the detector (80) whether the NLP is active or inactive; and

(c) if the NLP is active, disabling a processing step of the detector [Fig. 6; col. 11, lines 29-53].

Claims 11, 22, 33 are essentially similar to Claim1 and are rejected for the reasons stated above.

Claim 34 is also essentially similar to Claim 1 except for a plurality of detectors. These detectors are shown in Fig. 6.

Regarding Claims 2, 12, 23, see [col. 11, lines 40-53; col. 14, lines 24-30].

Regarding Claims 3-5, 13-14, 16, 24-25, 27, see [Fig. 7; col. 16, lines 14-35; col. 21, lines 5-12; col. 21, lines 47-67].

Regarding Claims 6, 17, 28, Kwan teaches multiple detectors including DTMF (76), call progress detector (77) [Fig. 6].

Regarding Claims 15 and 26, Kwan teaches an echo canceller (70) [Fig. 6].

Regarding Claims 7, 18, 19, , teaches using a DTMF detector 76 to determine whether or not there is a DTMF signal present at the near end [Fig. 6, 14A; col. 12, lines 20-37].

7. Claims 1-6, 11-17, 22-28, 33, 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Eriksson et al [US 6,06,873].

Regarding Claim 1, Eriksson et al teaches a method and an apparatus for controlling echo, as shown in Figs. 1, 4, and detecting a parameter in a communication signal to control a state of a non-linear processor (NLP) 14 [col. 1, line 48 to col. 2, line 13]. For this purpose, network echo cancellers include a tone detector (TD) 22 , which

detects a tone of an answering machine (i.e. a communication signal) and **disables** some or all of the echo canceller's functions if answering tones with certain predetermined characteristics are received. Thus, the tone detector determines whether the NPL is active or inactive. When the NPL is active, then the tone detector does not need to detect a parameter in the communication signal [Fig.1; col. 2, lines 8-13; Fig. 4; col. 4, lines 31-57; col. 5, lines 10-32].

Claims 11, 22, 33 are essentially similar to Claim1 and are rejected for the reasons stated above.

Claim 34 is also essentially similar to Claim 1 except for a plurality of detectors. These detectors including TD (122), TD (124), DTD (116) are shown in Fig. 4.

Regarding Claims 2-5, Eriksson et al teaches detecting near-end and far-end signals to determine the state (i.e. active or inactive) of the NPL [col. 1, line 58 to col. 2, line 13; col. 4, lines 31-57].

Claims 12-14, 16, 23-25, 27 are essentially similar to Claims 2-5.

Regarding Claims 6, Eriksson et al teaches multiple detectors including tone detectors (122), (124) [Fig. 4].

Claims 17 and 28 are essentially similar to Claims 6.

Regarding Claims 15 and 26, Eriksson et al teaches an echo canceller (1o) shown in Fig. 1 [col. 1, line 48 to col. 2, line 13].

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1, 11, 22, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Kirla [US 6,574,336 B1] or Younce et al [US 5,274,705] in view of Sorqvist et al [US 6,658,107 B1].

As per Claim 1:

Kirla teaches a method for activating and deactivating a non-linear processor (NLP) of an echo canceller, as shown in Fig. 9, based on a talk state, wherein when the NLP is activated, it performs non-linear processing to remove residual echoes [col. 2, lines 41-55; col. 7, lines 43-65; col. 8, line 66 to col. 9, line 40].

Younce et al teaches a method for controlling a state (i.e. active or inactive) of a non-linear processor (NLP) of an echo canceller, as shown in Figs. 5-9, based on talk state [col. 7, line 58 to col. 8, line 14].

Neither Kirla nor Younce et al teaches expressly detecting a parameter in a communication signal using a voice activity detector (VAD) and then applying the parameter to control the state of the NPL.

Sorqvist et al teaches applying a VAD to detect a parameter in a communication signal and then using it to determine whether speech (either source or echo) is present in the input to the NPL. Further, when the NPL is active, there is no need for detecting the parameter in the signal (i.e. VAD is disabled) [Fig. 4; col. 7, lines 5-10].

Kirla, Younce et al and Sorqvist et al are analogous art because they are from a similar problem solving area, viz. , echo cancellation in telephonic communications.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the VAD of Sorqvist et al with either Kirla or Younce et al.

The suggestion/motivation for doing so would have been to provide the ability to control the NPL to perform echo suppression in a bi-directional link [Sorqvist et al; col. 1, lines 7-9].

Claims 11, 22, 33 are essentially similar to Claim 1 and are rejected for the reasons stated above.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Ramnandan Singh whose telephone number is (703)308-6270. The examiner can normally be reached on M-F(8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester Isen can be reached on (703)-305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-0377.

Dr. Ramnandan Singh
Examiner
Art Unit 2644

December 12, 2003

FORESTER W. ISEN
PATENT EXAMINER
2600